

VIA FACSIMILE (703) 872-9306**9D-HL-20031
PATENT****Remarks**

The Office Action mailed December 10, 2004 and made final and the Advisory Action dated February 15, 2005 has been carefully reviewed and the foregoing amendment has been made in consequence thereof.

Claims 1-10 and 12-26 are now pending in this application. Claims 1, 4, 5, 15-20, and 23 stand rejected. Claims 2, 3, 6-10, 21, 24, and 25 are objected to. Claim 12-14, 22 and 26 are allowed. Claims 1, 4, 15, have been amended.

The specification is amended to correct clerical errors. Specifically, in paragraph 45, the duplicated phrase "to allow the dryer" has been deleted.

The rejection of Claims 1, 4, 5, and 23 under 35 U.S.C. § 102(b) as being anticipated by Joslin (U.S. Pat. No. 5,555,645) is respectfully traversed.

Joslin describes a clothes dryer (10) that includes a heater (12). The heater communicates with a rotatable drum (14) for containing an article or articles to be dried. An electric motor (16) provides motive force for the drum and for a blower (20). A temperature sensor (18) senses the temperature of air entering the drum. The blower draws air through the heater, by the sensor, and into the drum before exhausting the air from the dryer. A controller (22) controls the operation of the motor, including the direction of rotation. The blower provides two different air flow rates depending on the direction of rotation. The controller also controls the operation of the heater. The controller is responsive to the temperature sensed by the sensor. The sensor may cause a controller (22) to cycle the heater off and on as a temperature limit is successively exceeded and dropped below, respectively. Notably, Joslin describes the blower as a squirrel cage blower which is typically designed to have a maximum flow rate corresponding to revolution in a particular direction, e.g., the forward direction. When

VIA FACSIMILE (703) 872-9306**9D-HL-20031
PATENT**

the blower is operated in the opposite direction, e.g., the "reverse direction", the blower still moves air in the same direction, but at a reduced rate (col. 2, lines 19-24).

Applicants reiterate that Joslin makes no suggestion that the motor is anything other than a reversible motor, and, there is no suggestion that the motor operates at a different speed in the reverse direction. Therefore, Applicants respectfully submit that nothing in Joslin is suggestive of a variable speed blower.

Claim 1 recites a method of controlling the operation of a dryer including both a variable heat source and a variable speed blower, a drum including a cavity configured to hold an article to be dried, and a first motor drivingly coupled to the drum to rotate the drum. The method includes: "rotating the drum; and varying only one of the variable heat source and the variable speed blower, while maintaining the other one in a fixed state; wherein varying the variable speed blower comprises varying the variable speed blower between a first speed and a second speed greater than the first speed and in the same direction as the first speed."

Joslin neither describes nor suggests the method recited in Claim 1. More specifically, Joslin does not describe or suggest varying the variable speed blower between a first speed and a second speed greater than the first speed and in the same direction as the first speed. Rather, Joslin describes a blower that generates a first airflow rate when operated in a forward direction and a second airflow rate when operated in the reverse direction with the variation in flow rate described as being attributable only to the blower's direction of rotation and not to a change in speed. For the reasons set forth above, Claim 1 is submitted to be patentable over Joslin.

Claim 4 recites a dryer for tumble drying articles that includes "a drum comprising a cavity configured to hold articles to be dried; a first motor drivingly coupled

VIA FACSIMILE (703) 872-9306**9D-HL-20031
PATENT**

to said drum to rotate said drum; a variable heat source in flow communication with said cavity; and a variable speed motor drivingly coupled to a blower positioned to deliver air heated by said heat source to said cavity, wherein said motor is variable between a first speed and a second speed greater than the first speed and in the same direction as the first speed."

Joslin neither describes nor suggests the apparatus recited in Claim 4. More specifically, Joslin does not describe nor suggest a dryer that includes a variable speed motor drivingly coupled to a blower, wherein the motor is variable between a first speed and a second speed greater than the first speed and in the same direction as the first speed. Rather, Joslin describes a blower that generates a first airflow rate when operated in a forward direction and a second airflow rate when operated in the reverse direction, with the variation in flow rate described as being attributable only to the blower's direction of rotation and not to a change in speed. Accordingly, Claim 4 is submitted to be patentable over Joslin.

Claim 5 depends from Claim 4. When the recitations of Claim 5 are considered in combination with the recitations of Claim 4, Applicants submit that dependent Claim 5 likewise is patentable over Joslin.

Claim 23 recites a dryer control system for a tumble type dryer having a variable heat source and a variable speed blower motor driving the blower to supply air heated by the heat source to the dryer cavity through a cavity inlet and exhaust air from the dryer cavity through a cavity outlet, the system including: "... a controller operatively coupled to said at least one temperature sensor and configured to receive the temperature signals, said controller configured to control the operation of at least one of the variable speed blower motor and the variable heat source in a plurality of control modes based on the received signals; wherein the controller controls the operation of the variable speed

VIA FACSIMILE (703) 872-9306**9D-HL-20031
PATENT**

blower motor between a first speed and a second speed greater than the first speed and in the same direction as the first speed".

Joslin neither describes nor suggests the apparatus recited in Claim 23. More specifically, Joslin does not describe nor suggest a tumble dryer wherein a controller controls the operation of a variable speed blower motor between a first speed and a second speed greater than the first speed and in the same direction as the first speed. Rather, Joslin describes a blower that generates a first airflow rate when operated in a forward direction and a second airflow rate when operated in the reverse direction, with the variation in flow rate described as being attributable only to the blower's direction of rotation and not to a change in speed. Accordingly, Claim 23 is submitted to be patentable over Joslin.

For at least the reasons set forth above, Applicants respectfully request that the Section 102 rejection of Claims 1, 4, 5, and 23 be withdrawn.

The rejection of Claims 15-20 under 35 U.S.C. 102(b) as being anticipated by Rickard (U.S. Pat. No. 4,397,101) is respectfully traversed.

Rickard describes a dryer (10) that includes a drum (16), a pair of electric heating elements (32 and 33), an inlet air temperature sensor (52), an outlet air temperature sensor (54), and a controller (60). The controller is operatively coupled with the electric heating elements, through a triac switch (84) and receives temperature signals from the inlet air temperature sensor and the outlet air temperature sensor. Notably, Rickard only indicates that the triac is used to control a duty cycle of the heater elements which customarily refers to the amount of time in a given time interval that a device is in operation, or turned on. The device is turned off during the remainder of the time in the time interval. Rickard gives no indication that anything more is meant by a duty cycle. It

VIA FACSIMILE (703) 872-9306**9D-HL-20031
PATENT**

can therefore only be concluded that the triac is used to switch power, or current, to the heater elements on and off based on gate signals from the controller.

Claim 15 recites a heater control for a tumble type dryer that includes "a heater element supplying heated air to a drum comprising a cavity...at least one temperature sensor providing a signal indicative of cavity outlet temperature...and a controller operatively coupled to said heater element and said at least one temperature sensor and configured to vary at least one of a voltage and a current to said heater element based on said signal from said temperature sensor to substantially maintain a predetermined cavity outlet temperature, while maintaining said heater element in an on state."

Rickard neither describes nor suggests the apparatus recited in Claim 15. More specifically, Rickard does not describe or suggest a controller configured to vary at least one of either voltage or current to the heater element based on a signal from the temperature sensor to substantially maintain a predetermined cavity outlet temperature, while maintaining the heater element in an on state. Rather, Rickard describes a controller that turns heater elements on and off through a triac switch to control a duty cycle of the heater elements. Accordingly, Claim 15 is submitted to be patentable over Rickard.

Claims 16-20 depend from independent Claim 15. When the recitations of Claims 16-20 are considered in combination with the recitations of Claim 15, Applicants submit that dependent Claims 16-20 likewise are likewise patentable over Rickard.

For at least the reasons set forth above, Applicants respectfully request that the Section 102 rejections of Claims 15-20 be withdrawn.

The objection to claims 2, 3, 6-10, 21, 24, and 25 is respectfully traversed.


VIA FACSIMILE (703) 872-9306**9D-HL-20031
PATENT**

Applicants thank the Examiner for the indication of allowable subject matter in Claims 2, 3, 6-10, 21, 24, and 25. Claims 2 and 3 depend from independent Claim 1. Claims 6-10 depend from independent Claim 4. Claim 21 depends from independent Claim 15. Claims 24 and 25 depend from independent Claim 23. It is respectfully submitted that the respective base claims (Claims 1, 4, 15, and 23) are patentable over the cited art as indicated above.

Accordingly, Applicants respectfully request that the objection to claims 2, 3, 6-10, 21, 24, and 25 be withdrawn and that the Section 102 rejection of Claims 1, 4, 5, 15-20, and 23 be withdrawn.

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully Submitted,


Rozell Williams, Jr.
Registration No. 44,403
ARMSTRONG TEASDALE LLP
One Metropolitan Square, Suite 2600
St. Louis, Missouri 63102-2740
(314) 621-5070